

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of reducing vibration in a pumped system, comprising:
measuring a first vibration; and
producing a second vibration in a first pump, the second vibration being in anti-phase with the first vibration;
wherein the first vibration is generated by a second pump that is connected to the first pump.
2. (currently amended) The method of claim 1 wherein, the first pump is a turbomolecular pump.
3. (original) The method of claim 1 wherein, the first vibration is measured at a process chamber.
4. (canceled)
5. (currently amended) The method of claim 1 wherein, the second vibration is produced by a magnetic bearing in the first pump.
6. (currently amended) The method of claim 1 further comprising sending a signal to the first pump in response to the first vibration.
7. (currently amended) A method of active vibration reduction in a pumped system including a pump, comprising:
measuring a first vibration originating outside the pump;
generating a control signal in response to the first vibration; and
sending the control signal to a magnetic bearing in a the pump to induce a second vibration in the pump, the second vibration being in opposition to the first vibration such that the sum of the first vibration and the second vibration is less than the first vibration.

8. (original) The method of claim 7 further comprising creating a reduced pressure in a chamber using the pump.

9. (original) The method of claim 8 wherein the first vibration is measured at the chamber.

10. (original) The method of claim 7 wherein, the first vibration is measured at an inlet of the pump.

11-14 (canceled)

15. (original) A pumped system, comprising:
a first pump that produces a first vibration;
a second pump that comprises a magnetic bearing;
a vibration detector that generates a detection signal in response to the first vibration; and
a control circuit that sends a control signal to the magnetic bearing in response to the detection signal, the control signal inducing a second vibration in the second pump.

16. (original) The pumped system of claim 15 wherein the first pump is a dry pump.

17. (original) The pumped system of claim of claim 15 wherein the second pump is a turbomolecular pump.

18. (original) The pumped system of claim 15 further comprising an attaching element configured to allow the pumping system to be attached to a host.

19. (original) The pumped system of claim 18 wherein the vibration detector is mounted on the attaching element.

20. (original) The pumped system of claim 15 wherein, the second pump is configured to remove gas from a chamber and the first pump is attached to the second pump and is configured to remove gas from the second pump.

21. (new) A method of actively reducing vibration of a backing pump in a pumped system, comprising:

measuring a vibration of the backing pump, the measuring being at a location remote from the backing pump;

generating a control signal in response to the vibration of the backing pump; and

sending the control signal to a magnetic bearing in a primary pump to induce a cancelling vibration in the primary pump, the cancelling vibration being in opposition to the vibration of the backing pump such that a sum of the vibration of the backing pump and the cancelling vibration is less than the vibration of the backing pump.

22. (new) The method of claim 21 further comprising creating a reduced pressure in a chamber using the primary pump.

23. (new) The method of claim 21 wherein the primary pump is a turbomolecular vacuum pump.

24. (new) The method of claim 21 wherein, the vibration of the backing pump is measured at an inlet of the primary pump.